

B<sup>1</sup>

(b) passaging the transfected cells onto a second surface and in a second growth medium that permit attachment and proliferation; and therefrom producing a conditionally-immortalized dorsal root ganglion progenitor cell.

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9. (Amended) A method according to claim 6 wherein the first and second surfaces are independently selected, and wherein the first and second surfaces comprise one or more substrates selected from the group consisting of a polyamino acid, fibronectin, laminin, collagen and tissue culture plastic.

B<sup>2</sup>  
Sub E<sup>1</sup>

10. (Amended) The method of claim 6 wherein the oncogene is selected from the group consisting of v-myc, N-myc, c-myc, SV40 large T antigen, polyoma large T antigen, E1a adenovirus and E7 protein of human papillomavirus.

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Sub E<sup>2</sup>

12. (Amended) A conditionally-immortalized dorsal root ganglion progenitor cell containing an oncogene, wherein the cell is capable of differentiation into neurons upon substantial inhibition of the activity of the oncogene.

B<sup>3</sup>

13. (Amended) A cell according to claim 12, wherein the cell is a rat dorsal root ganglion progenitor cell transfected with an oncogene.

14. (Amended) A cell according to claim 12, wherein the cell is a human dorsal root ganglion progenitor cell transfected with an oncogene.

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Please add the following new claims:

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47. (New) A method for producing neurons, comprising culturing a cell produced according to claim 6 under conditions inhibiting expression of the regulatable oncogene.

48. (New) A method according to claim 47, wherein the cells are conditionally-immortalized rat or human dorsal root ganglion progenitor cells, and wherein the cells are cultured on a substrate in the presence of one or more differentiating agents.

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49. (New) A neuron produced according to the method of claim 47.

50. (New) A method for producing neurons, comprising culturing a cell according to claim 12 under conditions inhibiting expression of the oncogene.

Sub G<sup>1</sup>

51. (New) A method according to claim 50, wherein the cells are conditionally-immortalized rat or human dorsal root ganglion progenitor cells, and wherein the cells are cultured in the presence of one or more differentiating agents.

52. (New) A neuron produced according to the method of claim 50.

Sub E4

53. (New) A method for determining whether conditionally-immortalized dorsal root ganglion progenitor cells are capable of differentiation into neurons, comprising the step of determining the presence or absence of  $\beta$ III-tubulin positive cells in the proliferative growth condition, and therefrom determining whether the cells are capable of differentiation into neurons.

54. (New) A method for transplanting a dorsal root ganglion cell into a mammal, comprising administering to a mammal a cell produced according to the method of claim 6.

55. (New) A method for transplanting a dorsal root ganglion cell into a mammal, comprising administering to a mammal a cell according to claim 12.

56. (New) A method of treating a patient, comprising administering to a patient a cell produced according to the method of claim 6.

57. (New) A method of treating a patient, comprising administering to a patient a cell according to claim 12.

58. (New) A method according to claim 57 wherein the patient is afflicted with chronic pain and/or a pathological condition characterized by neurodegeneration.

59. (New) A method according to claim 58 wherein the pathological condition is a neuropathy.

60. (New) A method for screening for an agent that modulates the activity of a protein produced by a dorsal root ganglion cell, comprising:

(a) contacting a cell produced according to the method of claim 6 with a candidate agent; and

(b) subsequently measuring the ability of the candidate agent to modulate the activity of a protein produced by the cell.

61. (New) A method for screening for an agent that modulates activity of a protein produced by a dorsal root ganglion cell, comprising:

(a) contacting a cell according to claim 12 with a candidate agent; and

(b) subsequently measuring the ability of the candidate agent to modulate the activity of a protein produced by the cell.

62. (New) A method for detecting the presence or absence of a protein in a sample, comprising:

(a) contacting a sample with a cell produced according to the method of claim 6; and

(b) subsequently detecting a response in the cell, and therefrom detecting the presence of a protein in the sample.

63. (New) A method for detecting the presence or absence of a protein in a sample, comprising:

(a) contacting a sample with a cell according claim 12; and

(b) subsequently detecting a response in the cell, and therefrom detecting the presence of a protein in the sample.

64. (New) A method of identifying a human dorsal root ganglion gene or protein, comprising detecting the presence of a gene or protein within a culture of cells produced according to the method of claim 6.

65. (New) A method of identifying a human dorsal root ganglion gene or protein, comprising detecting the presence of a gene or protein within a culture of cells according to claim 12.

66. (New) A method for screening for an agent that affects dorsal root ganglion cell death, comprising:

(a) contacting a cell produced according to the method of claim 6 with a candidate agent under conditions that, in the absence of the candidate agent, results in death of the cell; and

(b) subsequently measuring the ability of the candidate agent to affect death of the cell, and therefrom identifying an agent that affects dorsal root ganglion cell death.

67. (New) A method for screening for an agent that affects dorsal root ganglion cell death, comprising:

(a) contacting a cell according to claim 12 with a candidate agent under conditions that, in the absence of the candidate agent, results in death of the cell; and

(b) subsequently measuring the ability of the candidate agent to affect death of the cell, and therefrom identifying an agent that affects dorsal root ganglion cell death.

68. (New) A method for screening for a protein that regulates dorsal root ganglion cell death, comprising:

(a) altering the level of expression of a protein within a cell produced according to the method of claim 6; and